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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,035	11/03/2003	David Christopher Burden	200309887-1	3386

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EXAMINER

PATEL, ANAND B

ART UNIT	PAPER NUMBER
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2116

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/700,035	BURDEN, DAVID CHRISTOPHER	
	Examiner	Art Unit	
	Anand Patel	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-27 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-27 and 30-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Amendment filed 11/17/06 has been entered. Examiner notes that the claim listing is incorrect and claims 1-19, 28-29 are withdrawn, as per the previous Office Action.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 30 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer-readable medium claimed in the preamble of the claim contains non-statutory subject matter. As described in the specification, computer-readable media can contain transmission media, which is not tangible. Applicant is advised to rewrite the claim to embody only tangible media (non-volatile and volatile media as per the specification).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 20-29, 31-32 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No 6173408 to Jimbo et al (Jimbo).

- As per claims 20, 32, Jimbo discloses a method, comprising:
 - Determining an operating frequency of a frequency scaleable processor (inherent given figure 17, NUMBER OF EXECUTION CYCLES);

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- Examining a power data associated with a process (figure 17); and
- Selectively scheduling the process for processing by the processor based, at least in part, on the operating frequency of the processor, and the power data (column 7, line 23 – column 8, line 8).
- As per claim 21, Jimbo discloses the method where the power data describes one or more events associated with the processor processing the process (figure 17).
- As per claim 22, Jimbo discloses the method where the events include one or more of, the process not previously being run, the operating frequency of the processor increasing during processing, the operating frequency of the processor decreasing during processing, and the operating frequency of the processor not changing during processing (figure 17; frequency does not change).
- As per claim 23, Jimbo discloses the method where selectively scheduling the process for processing includes generating one or more signals that cause the processor to process the process (column 7, line 23 – column 8, line 4).
- As per claim 24, Jimbo discloses the method where selectively scheduling the process for processing includes generating one or more signals that cause the process to be logically located at a selected location in a data structure that is organized by process schedule order (column 7, lines 23-34).
- As per claim 25, Jimbo discloses the method where selectively scheduling the process for processing includes storing one or more values in a data structure that is organized by process schedule order (column 7, lines 23-34; 502).
- As per claim 26, Jimbo discloses the method comprising:
 - Examining a processor data associated with the frequency scaleable processor (figure 17);
 - and

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- Selectively scheduling the process for processing based, at least in part, on the processor data, the operating frequency of the processor, and the power data (column 7, line 23 – column 8, line 8).
- As per claim 27, Jimbo discloses the method where the processor data describes one or more of, a processor temperature, a processor temperature history, a change in the processor temperature, a processor power consumption, a processor power consumption history, a change in the processor power consumption, a current flowing through the processor, a processor current history, and a change in current flowing through the processor (figure 17; processor power consumption).
- As per claim 31, Jimbo discloses a system, comprising:
 - Means for determining an operating frequency of a frequency scaleable processor (inherent given figure 17, NUMBER OF EXECUTION CYCLES);
 - Means for determining a change in the operating frequency of the frequency scaleable processor (inherent given NUMBER OF EXECUTION CYCLES and corresponding PREDICTED POWER CONSUMPTION);
 - Means for evaluating one or more power attributes associated with an executable entity (figure 17); and
 - Means for scheduling the executable entity for execution on the frequency scaleable processor based, at least in part, on the operating frequency, the change in operating frequency, and the power attributes (column 7, line 23 – column 8, line 8).

Response to Arguments

6. Applicant's arguments filed 11/17/06 have been fully considered but they are not persuasive.
7. Applicant's traversal of the Restriction Requirement has been considered but is not persuasive. The charge rationing status of Group I is not related to the operating frequency of the processor. As noted in

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that Office Action, the separate utility provides further reasons for restricting the separate invention out of the instant application.

8. Applicant's explanation of the rejection of claim 22 is incorrect. Examiner was merely pointing to the event that was taught by the reference, the event being that the operating frequency does not change during processing. As described below, the frequency of the processor must change based on the varying power consumptions for processing instructions in the system.

9. Applicant argues the rejection under 35 U.S.C. 101. Examiner disagrees. Under current examination guidelines the rejection is proper. Applicant is directed to Annex IV of the Interim Guidelines, published in the Official Gazette, November 22, 2005 for further clarification.

10. Applicant argues that Jimbo does not disclose determining an operating frequency of a frequency scaleable processor. Examiner disagrees. In figure 17, various instructions are listed with their associated power consumptions and the length each instruction takes to perform. For one of ordinary skill in the art at the time of invention, it would have been known that power consumption is related to operating frequency by a fixed value in a given system in a given state. Thus by determining the power consumption of an instruction, the system indirectly determines the frequency of the processor. It should also be noted that applicant's contention that figure 17 would be the same regardless of the operating frequency is improper. If a given instruction took 1 cycle to complete when the processor was running at 1 Hz, it would consume a power substantially different than that same instruction being completed in 1 cycle at 1 GHz.

11. Applicant argues that Jimbo does not disclose selectively scheduling based on the operating frequency of the processor. Examiner disagrees. Jimbo discloses selectively scheduling an instruction, as described in the citation listed above, based on a power consumption of that instruction, which, as discussed above, is necessarily related to the operating frequency. The fact that the rescheduling is based

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on a hold signal is not germane. The instruction is being run at a time later than was at first expected; this constitutes rescheduling.

12. Applicant argues that there are no events listed in figure 17. Examiner notes that running the instructions listed in figure 17 would qualify as an event.

13. Applicant argues that the Office Action is internally inconsistent. Examiner would like to direct applicant to the discussion of claim 22 above to clear up that issue.

14. Applicant argues that Jimbo does not disclose a signal causing a processor to process. Examiner disagrees. Jimbo discloses deasserting the HOLD signal, which causes the processor to being processing instructions.

15. Applicant argues that a single instruction is not a process. Examiner disagrees. Performing a single instruction fits the definition of a process. Applicant is welcome to specifically claim that the process must be more than a single instruction.

16. Applicant argues that Jimbo does not disclose storing an instruction in a data store. Examiner disagrees. Jimbo discloses 502, which stores an instruction in a register.

Conclusion

17. Examiner notes that should claim 30 be rewritten to overcome the rejection under 35 U.S.C. 101 above, the claim would be rejected under grounds similar to those of claim 20.

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action

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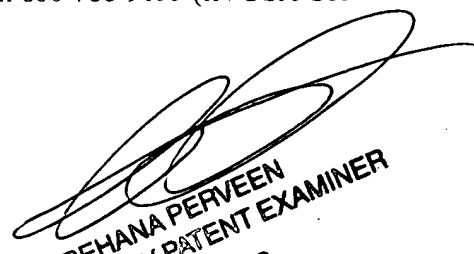
is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anand Patel whose telephone number is (571) 272-7211. The examiner can normally be reached on Mon-Fri 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ABP


REHANA PERVEEN
SUPERVISORY PATENT EXAMINER
1/3/07